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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/676,481	09/30/2003	Feng Jin	42P17237	7521
8791	7590	01/10/2008		
BLAKELY SOKOLOFF TAYLOR & ZAFMAN 1279 OAKMEAD PARKWAY SUNNYVALE, CA 94085-4040			EXAMINER ARCOS, CAROLINE H	
			ART UNIT 2195	PAPER NUMBER
			MAIL DATE 01/10/2008	DELIVERY MODE PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/676,481

Applicant(s)

JIN ET AL.

Examiner

Caroline Arcos

Art Unit

2195

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 22 October 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,4-6,8-14,16-18,20-21, 24-26 and 28-30 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,4-6,8-14,16-18,20-21, 24-26 and 28-30 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 9/30/2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☒ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date 10/22/2007.
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- ☐ Notice of Informal Patent Application
- ☐ Other: _____

DETAILED ACTION

1. 1, 4-6, 8-14, 16-18, 20-21, 24-26 and 28-30 are pending .

Claim Rejections - 35 USC § 112

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claims 18 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

a. The claim language in the following claims is not clearly understood:

i. As per claim 18, line 1, it is not clearly understood whether “the first processor” is the same as “a first application processor” of claim 17 (i.e. if it is the same it should be referred to as the first application processor).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claim 1, 4-6, 9-14, 16-18, 21, 24-26 and 29-30 are rejected under 35 U.S.C. 103(a) as being unpatentable over Collins (US, 6,158,000), in view of Khanna et al.

(Khanna) (US 2003/0056090 A1).

4. As per claim 1, Collins teaches the invention substantially including a method comprising: building a queue having one or more drivers for execution prior to booting an operating system (abs. , lines 12-14; col.1, lines 54-60; col. 2, lines 42-44) ; and executing the one or more drivers in the queue using a plurality of processors, the plurality of processors including a bootstrap processor and one or more application processors (col.3, lines 49-56), wherein the execution of drivers by each of the plurality of processors includes:

determining whether there is a first driver of the one or more drivers in the queue,

determining whether the first driver is ready for execution and if the first driver is ready for execution, executing the first driver (col. 1, lines 54-57; col.2, lines 44-46).

5. Collins did not teach removing the first driver from the queue. However, Khanna teaches that removing the first driver from the queue (Fig.4, 415,425). It would have been obvious to one of ordinary skill in the art at the time of the invention was made to combine the teaching of Collins and Khanna's because Khanna's teaching of removing the first driver that is ready for execution from the queue would improve the accuracy of the driver list and the efficiency of the system by keeping the driver list always updated.

6. As per claim 4, Collins teaches that if a first application processor of the one or more application processors determines that there are no drivers left in the queue, the first application processor goes to an idle state (Fig.3, 342; col.8, lines 43-44).

7. As per claim 5, Collins teaches that if the bootstrap processor determines there are no drivers left in the queue, the bootstrap processor:

waits until all other processors in the plurality of processors are in an idle state;
and

boots an operating system (Col.3, lines 56-60).

8. As per claim 6, Collins teaches that the plurality of processors includes one or more logical processors (abs, lines 4-6).

9. As per claim 9, Collins teaches that the plurality of drivers are executed in order (col.1, lines 54-56; col.2, lines 42-44).

10. As per claim 10, Collins did not specifically teach that a first driver in the queue that has a dependency on a second driver in the queue is not executed until the second driver has been executed. However, Khanna teaches that a first driver in the queue that has a dependency on a second driver in the queue is not executed until the second driver has been executed (abs, lines 6-10; Par. [0032]).

11. As per claim 11 Collins teaches a processor comprising: an execution unit; and a first logical processor and a second logical processor, the first logical processor and the second logical processor utilizing the execution unit (abs, lines 1-6); the first logical processor to build a queue having one or more drivers to be executed prior to booting an operating system (abs, lines 10-18; col.3, lines 49-56) ; and the first logical processor and the second logical processor to execute the one or more drivers in the queue in parallel at least in part (abs, lines 1-3; col.3, lines 60-63), wherein the execution of drivers includes:

determining whether there is a first driver of the one or more drivers in the queue,

determining whether the first driver is ready for execution, and

if the first driver is ready for execution, executing the first driver (col. 1, lines 54-57; col.2, lines 44-46).

12. Collins did not teach removing the first driver from the queue. However, Khanna teaches that removing the first driver from the queue (Fig.4, 415,425).

13. As per claim 12, Collins teaches if the second logical processor determines there are no drivers left in the queue, the second logical processor is to enter an idle state (Fig.3, 342; col.8, lines 43-44).

14. As per claim 13, Collins teaches if the first logical processor determines there are no drivers left in the queue, the first logical processor is to: wait until the second processor is in an idle state; and boot the operating system (Col.3, lines 56-60).

15. As per claim 14, Collins teaches that the processor operates concurrently with one or more other processors (abs, lines 1-3; col.3, lines 60-63).

16. As per claim 16, Collins teaches a system comprising:

a bootstrap processor ;

one or more application processors (Abs, lines 3-6) ;

a bus, the bootstrap processor and the one or more application processors being coupled to the bus; and

a flash memory coupled to the bus (col.3, lines 47-49);

wherein prior to the booting of an operating system for the system the bootstrap processor and the one or more application processors execute a plurality of drivers in a queue in parallel at least in part (abs, lines 1-3; col.3, lines 60-63), the execution of the drivers by the bootstrap processor and each of the one or more application processors including:

determining whether there is a first driver of the plurality of drivers in the queue to be executed,

determining whether the first driver is ready for execution, and if the first driver is ready for execution and executing the first driver(col. 1, lines 54-57; col.2, lines 44-46).

17. Collins did not teach removing the first driver from the queue. However, Khanna teaches that removing the first driver from the queue (Fig.4, 415,425).

18. As per claim 17, Collins teaches that The system of claim 16, wherein if a first application processor of the one or more application processors determines that there are no drivers left in the queue, the first application processor is to enter an idle state (Fig.3, 342; col.8, lines 43-44).

19. As per claim 18, Collins teaches that if the first processor determines there are no drivers left in the queue, the first processor is to: wait until all of the one or more application processors are in an idle state; and boot the operating system (Col.3, lines 56-60).

20. As per claim 21, Collins teaches a computer-readable medium having stored thereon data representing sequences of instructions that, when executed by a processor, cause the processor to perform operations (col.1, lines 54-60) comprising:

building a queue having one or more drivers to be executing prior to booting of an operating system (abs, lines 14-18; col.3, lines 49-56); and

executing the one or more drivers in the queue using a plurality of processors, the plurality of processors including a bootstrap processor and one or more application processors (abs, lines 4-6), wherein the execution of drivers by each of the plurality of processors includes:

determining whether there is a first driver of the plurality of drivers in the queue,

determining whether the first driver is ready for execution, and if the first driver is ready for execution and executing the first driver(col. 1, lines 54-57; col.2, lines 44-46).

21. Collins did not teach removing the first driver from the queue. However, Khanna teaches that removing the first driver from the queue (Fig.4, 415,425).

22. As per claim 24, it is the medium claim of the method claim 4. Therefore, it is rejected under the same rational as claim 4.

23. As per claim 25, it is the medium claim of the method claim 5. Therefore, it is rejected under the same rational as claim 5.

24. As per claim 26, it is the medium claim of the method claim 6. Therefore, it is rejected under the same rational as claim 6.

25. As per claim 29, it is the medium claim of the method claim 9. Therefore, it is rejected under the same rational as claim 9.

26. As per claim 30, it is the medium claim of the method claim 10. Therefore, it is rejected under the same rational as claim 10.

27. Claims 8,20 and 28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Collins (US, 6,158,000), in view of Khanna et al. (Khanna) (US 2003/0056090 A1), and further in view of Rothman (US 2004/0088531 A1).

28. As per claim 8, the combined teaching of Collins and Khanna did not teach that each of the plurality of the drivers is compatible with an extensible firmware interface (EFI) specification. However, Rothman teaches that each of the plurality of the drivers is compatible with an extensible firmware interface (EFI) specification (Par. [0017], lines 1-4; Par. [0023], lines 11-15).

29. It would have been obvious to one of ordinary skill in the art at the time the invention was made to have combined the teachings of Collins, Khanna and Rothman because Rothman's teaching of driver compatibility with and EFI improving the system by enhancing platform compatibility to create support for any new device type during the boot process.

30. As per claim 20, Rothman teaches that each of the plurality of drivers is compatible with an extensible firmware interface (EFI) specification (Par. [0017], lines 1-4; Par. [0023], lines 11-15).

31. As per claim 28, it is the medium claim of the method claim 8. Therefore, it is rejected under the same rationale as claim 8.

Response to Amendment

32. Claims 2-3, 7, 15, 22-23 and 27 are cancelled.

33. Amendment to specification is accepted by examiner.

34. Claim objection has been withdrawn by examiner.

Response to Arguments

35. Applicant's arguments with respect to claims 1, 4-6, 8-14, 16-18, 20-21, 24-26, and 28-30 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

36. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

(US 5,854,905) teach extensible BIOS for boot support of devices.

37. Applicant's amendment necessitated the new ground (s) of rejection presented in this office action. Accordingly, **THIS ACTION IS MADE FINAL**. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

38. A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than

SIX MONTHS from the mailing date of this final action.

39. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Caroline Arcos whose telephone number is 571-270-3151.

The examiner can normally be reached on Monday-Thursday 7:00 AM to 5:30 PM.

40. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Meng-Ai An can be reached on 571-272-3756. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

41. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Patent Examiner
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